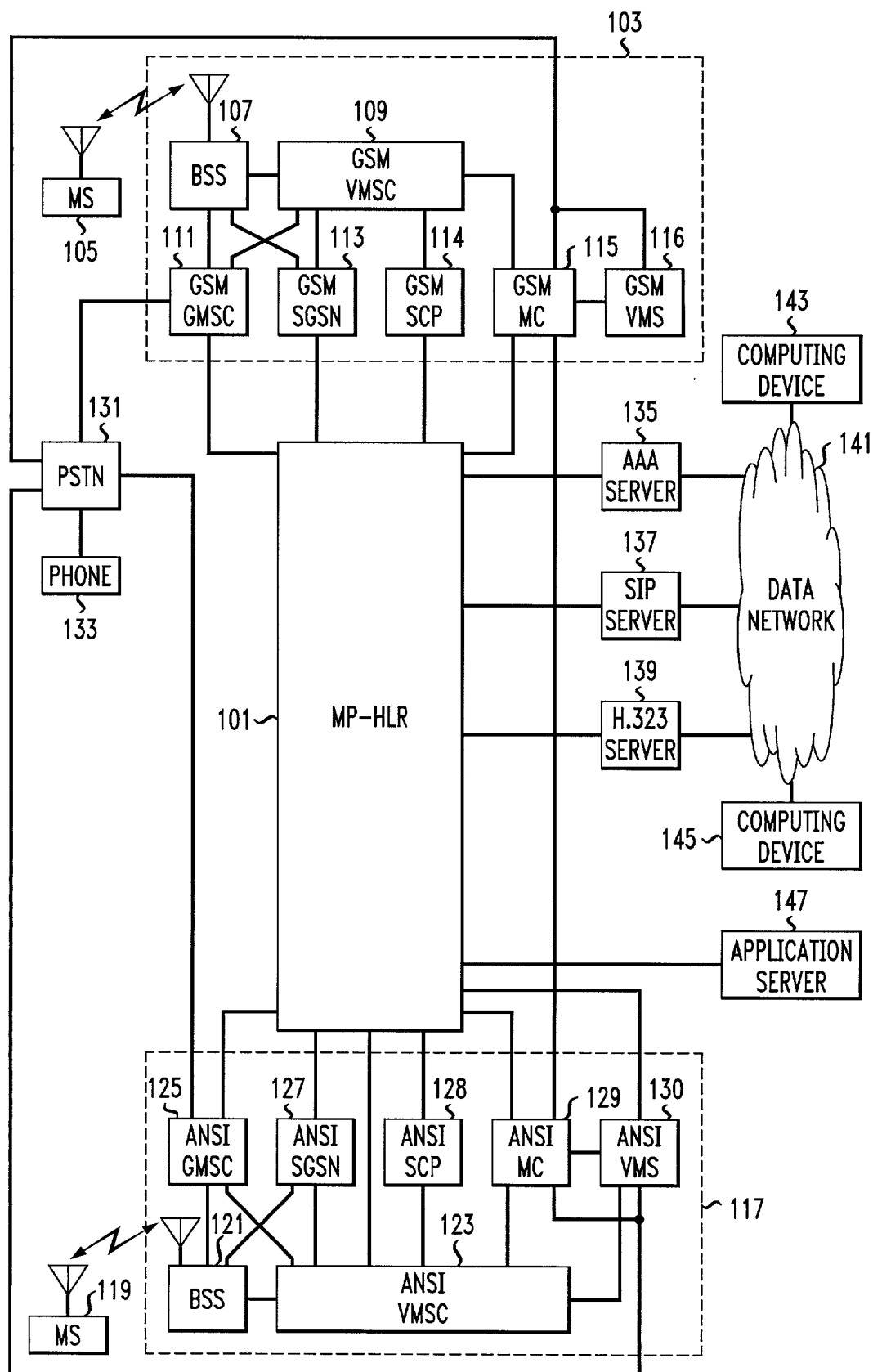


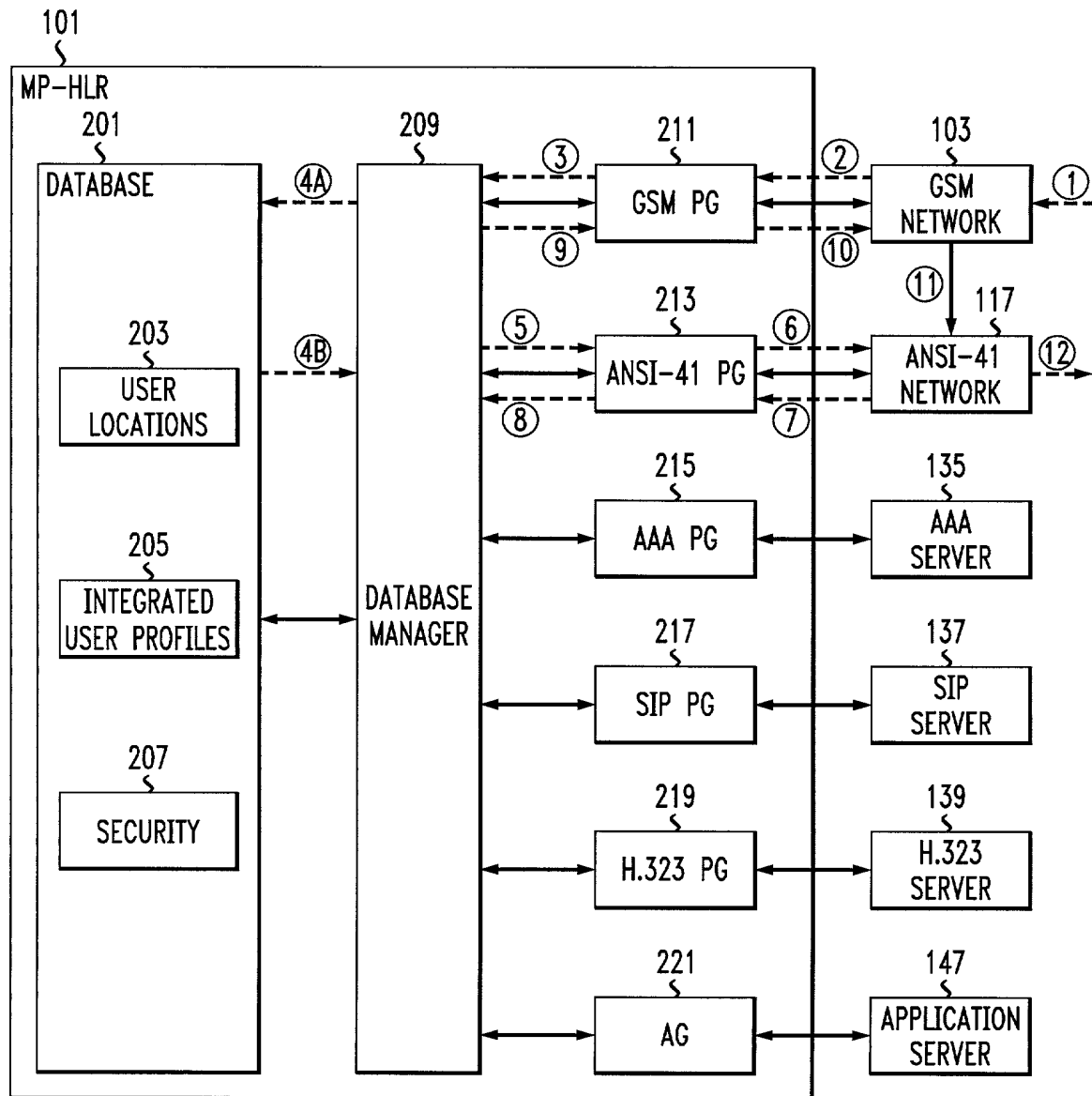
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FIG. 1

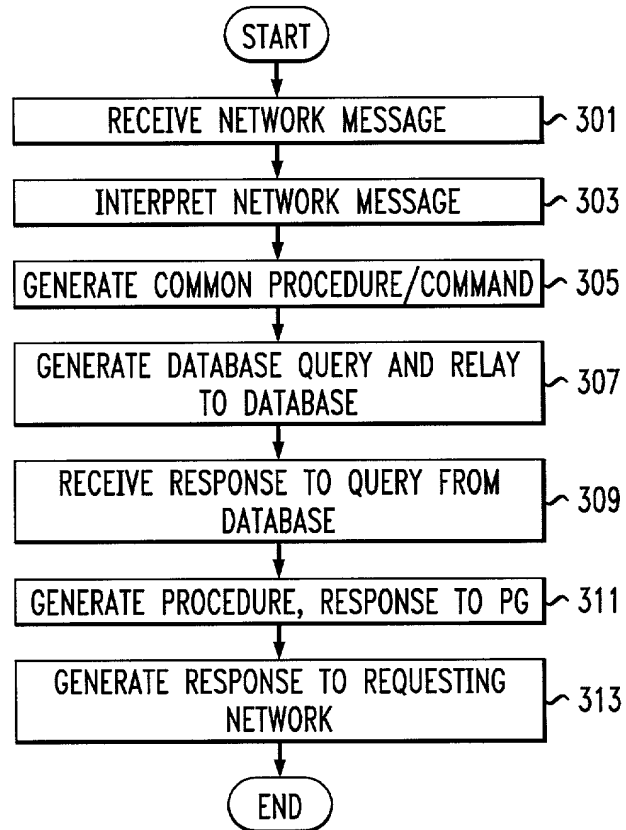
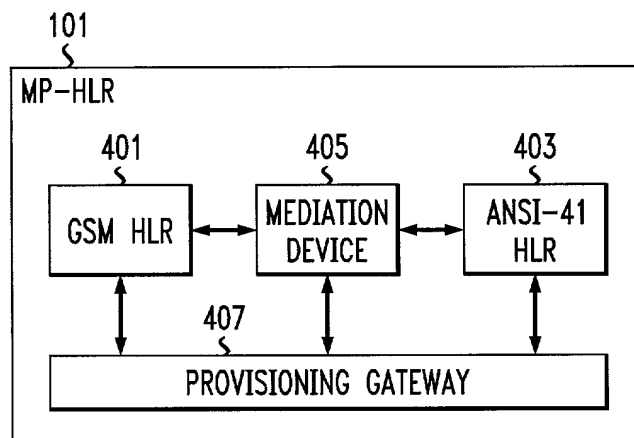


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FIG. 2



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FIG. 3*FIG. 4*

```

sequenceDiagram
    participant MS
    participant GSM_VMSC as GSM VMSC
    participant GSM_HLR as GSM HLR
    participant Mediation_Device as MEDIATION DEVICE
    participant ANSI_HLR as ANSI HLR
    participant Previous_GSM_MSC as PREVIOUS GSM MSC
    participant Previous_ANSI_MSC as PREVIOUS ANSI MSC

    MS->>GSM_VMSC: LOCATION UPDATE REQUEST
    GSM_VMSC->>GSM_HLR: UPDATE LOCATION (MSC NO., VLR NO., MSC ID)
    GSM_HLR->>GSM_VMSC: STORE MSC NO., VLR NO.
    GSM_VMSC->>GSM_HLR: INSERT SUBSCRIBER DATA
    GSM_HLR->>GSM_VMSC: ACK
    GSM_VMSC->>GSM_HLR: DUAL MODE MS?
    GSM_HLR-->>GSM_VMSC: NO
    GSM_VMSC->>MS: NORMAL GSM PROCESSING
    GSM_HLR->>GSM_VMSC: YES
    GSM_VMSC->>GSM_HLR: STORE PREVIOUS + NEW VMSC TYPE = GSM
    GSM_HLR->>Mediation_Device: UPDATE LOCATION PRIM (MSC TYPE = GSM)
    Mediation_Device->>ANSI_HLR: REGISTRATION NOTIFICATION (MSC TYPE = GSM)
    ANSI_HLR->>Mediation_Device: STORE NEW VMSC TYPE + PREVIOUS
    Mediation_Device->>ANSI_HLR: ACK (NO PROFILE)
    Mediation_Device->>GSM_HLR: ACK
    Mediation_Device->>ANSI_HLR: PREV. VMSC TYPE?
    ANSI_HLR-->>Mediation_Device: GSM
    Mediation_Device->>GSM_HLR: PREV. VMSC TYPE?
    GSM_HLR-->>Mediation_Device: GSM
    Mediation_Device->>ANSI_HLR: PREV. VMSC TYPE?
    ANSI_HLR-->>Mediation_Device: ANSI
    Mediation_Device->>Previous_ANSI_MSC: REGISTRATION CANCELLATION
    Mediation_Device->>Previous_GSM_MSC: CANCEL LOCATION
    Mediation_Device->>ANSI_HLR: NATIVE MODE ANSI?
    ANSI_HLR-->>Mediation_Device: YES
    Mediation_Device->>Previous_ANSI_MSC: REGISTRATION CANCELLATION
    Mediation_Device->>ANSI_HLR: NATIVE MODE ANSI?
    ANSI_HLR-->>Mediation_Device: NO
    Mediation_Device->>MS: DONE
  
```

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```

sequenceDiagram
    participant MS
    participant ANSI136 as ANSI-136 VMSC
    participant ANSILHLR as ANSI HLR
    participant MED as MEDIATION DEVICE
    participant GSMHLR as GSM HLR
    participant PREVIOUSGSM as PREVIOUS GSM MSC
    participant PREVIOUSANSI as PREVIOUS ANSI MSC

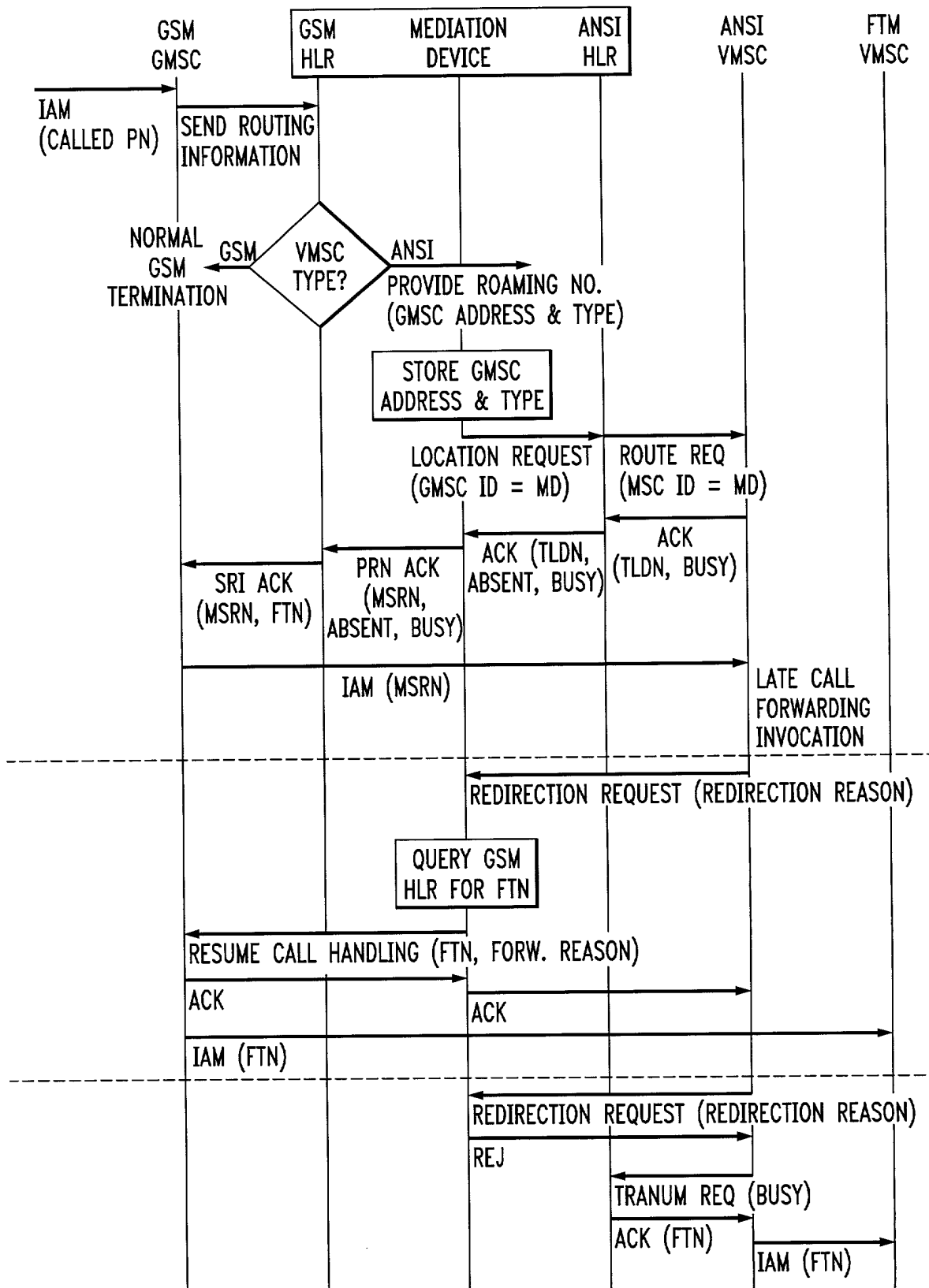
    MS->>ANSI136: REGISTRATION (ESN, MIN)
    ANSI136->>ANSILHLR: AUTHENTICATION REQ
    ANSILHLR-->>ANSI136: ACK
    ANSI136->>ANSILHLR: REGISTRATION NOTIFICATION (ESN, MIN, MSC ID)
    Note over ANSI136: STORE MSC NEW MSC ID
    ANSILHLR-->>ANSI136: ACK (PROFILE)
    ANSI136-->>MED: DUAL MODE MS ?
    MED-->>ANSI136: NO
    ANSI136-->>MS: NORMAL ANSI PROCESSING
    MED-->>ANSI136: YES
    Note over ANSI136: STORE PREVIOUS + NEW VMSC TYPE = ANSI
    ANSI136->>ANSILHLR: REGISTRATION NOTIFICATION (MSC TYPE = ANSI)
    ANSILHLR->>GSMHLR: UPDATE LOCATION (MSC TYPE = ANSI)
    Note over GSMHLR: STORE NEW VMSC TYPE + PREVIOUS
    GSMHLR-->>ANSILHLR: ACK
    ANSILHLR-->>ANSI136: ACK (NO PROFILE)
    MED-->>PREVIOUSANSI: PREVIOUS VMSC TYPE ?
    PREVIOUSANSI-->>MED: ANSI
    MED-->>PREVIOUSGSM: PREVIOUS VMSC TYPE ?
    PREVIOUSGSM-->>MED: GSM
    Note over PREVIOUSGSM: CANCEL LOCATION
    Note over PREVIOUSANSI: REGISTRATION CANCELLATION
    Note over MED: DUAL MODE MS ?
    MED-->>MS: NO
    MS-->>MS: DONE
    MED-->>PREVIOUSANSI: YES
    Note over PREVIOUSANSI: REGISTRATION CANCELLATION
    Note over PREVIOUSGSM: CANCEL LOCATION

```

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FIG. 7

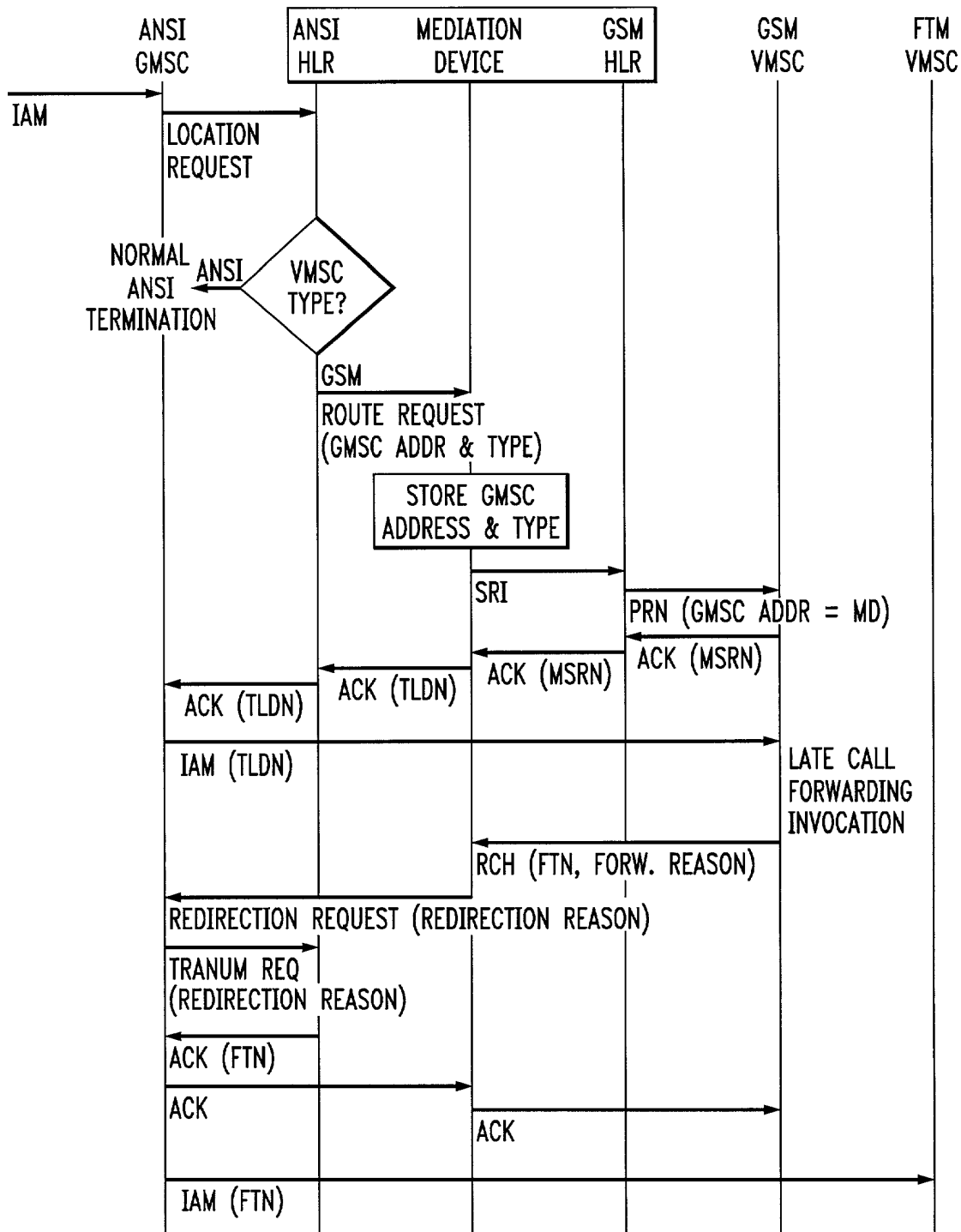
CALL DELIVERY: GMSC = GSM, VMSC = ANSI



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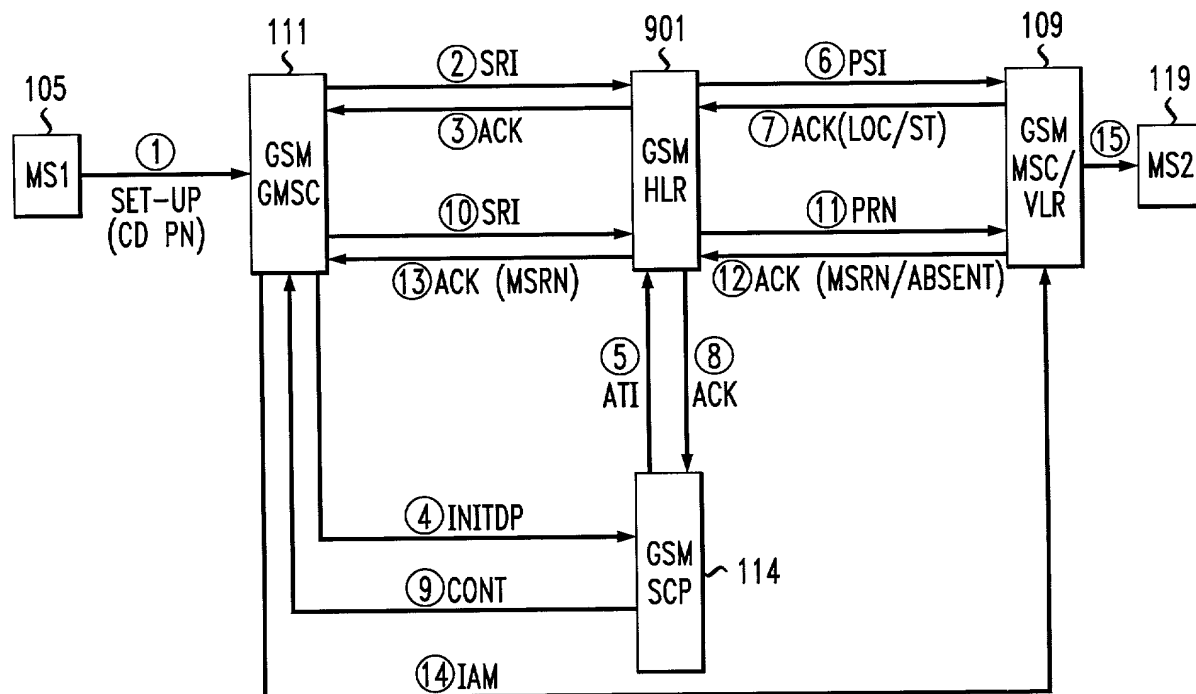
FIG. 8

CALL DELIVERY: GMSC = ANSI, VMSC = GSM



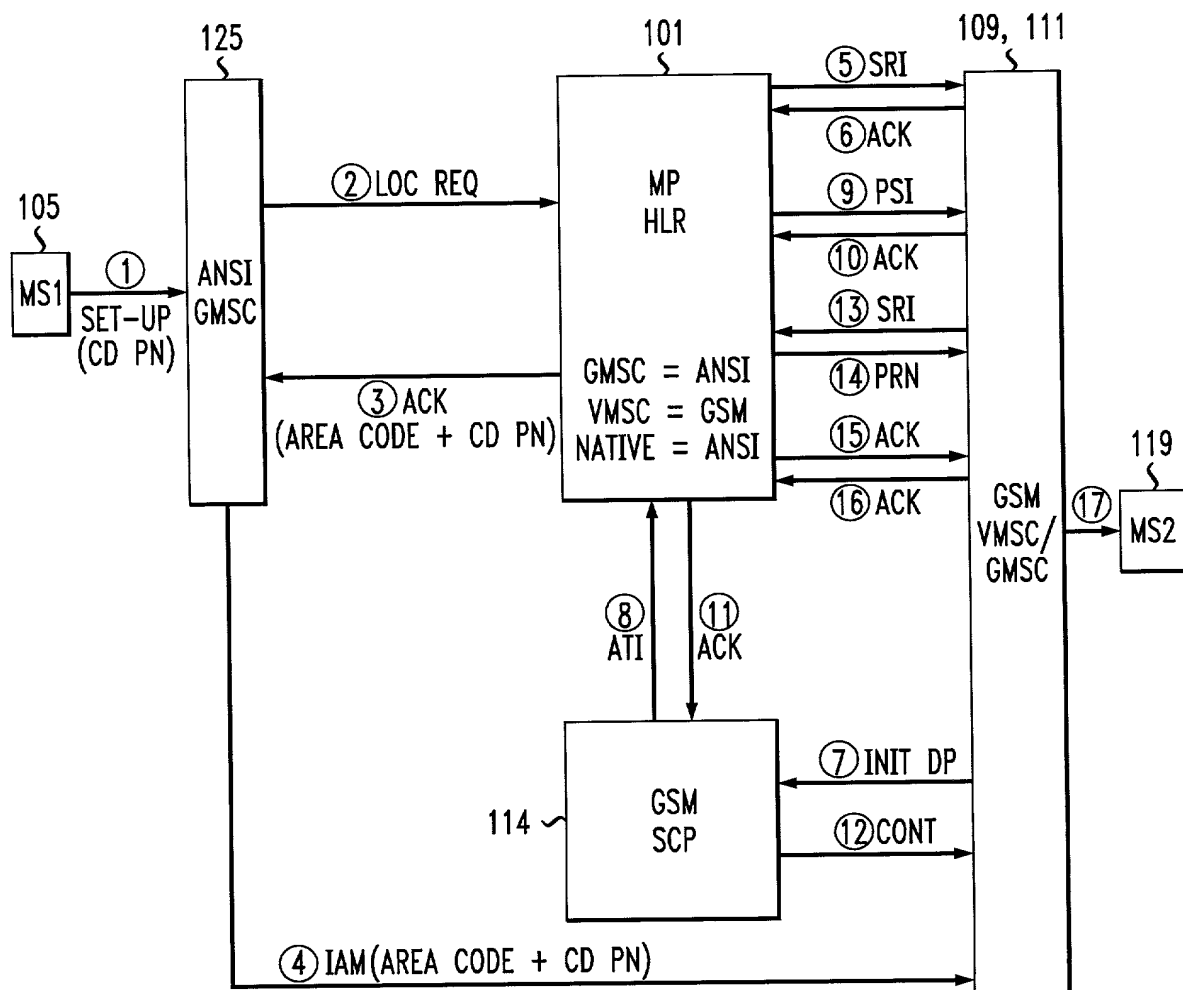
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FIG. 9
PRIOR ART



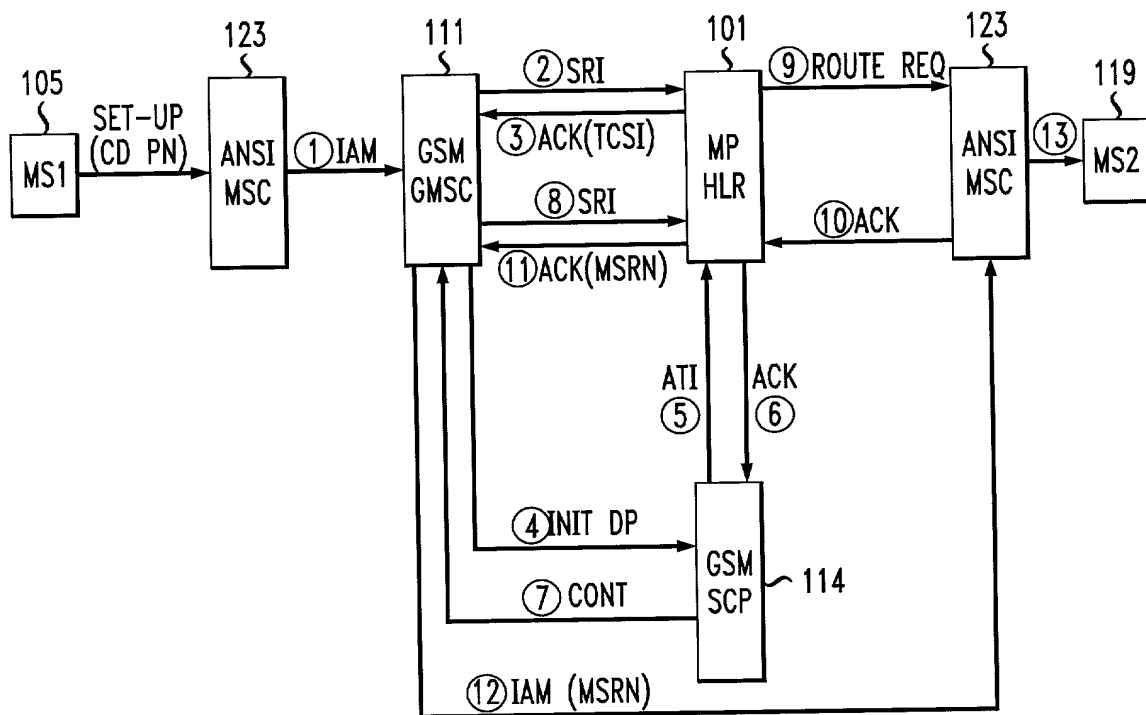
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FIG. 10



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FIG. 11



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FIG. 12

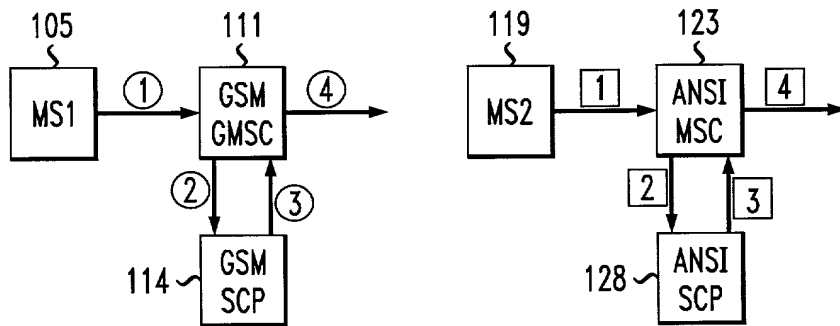
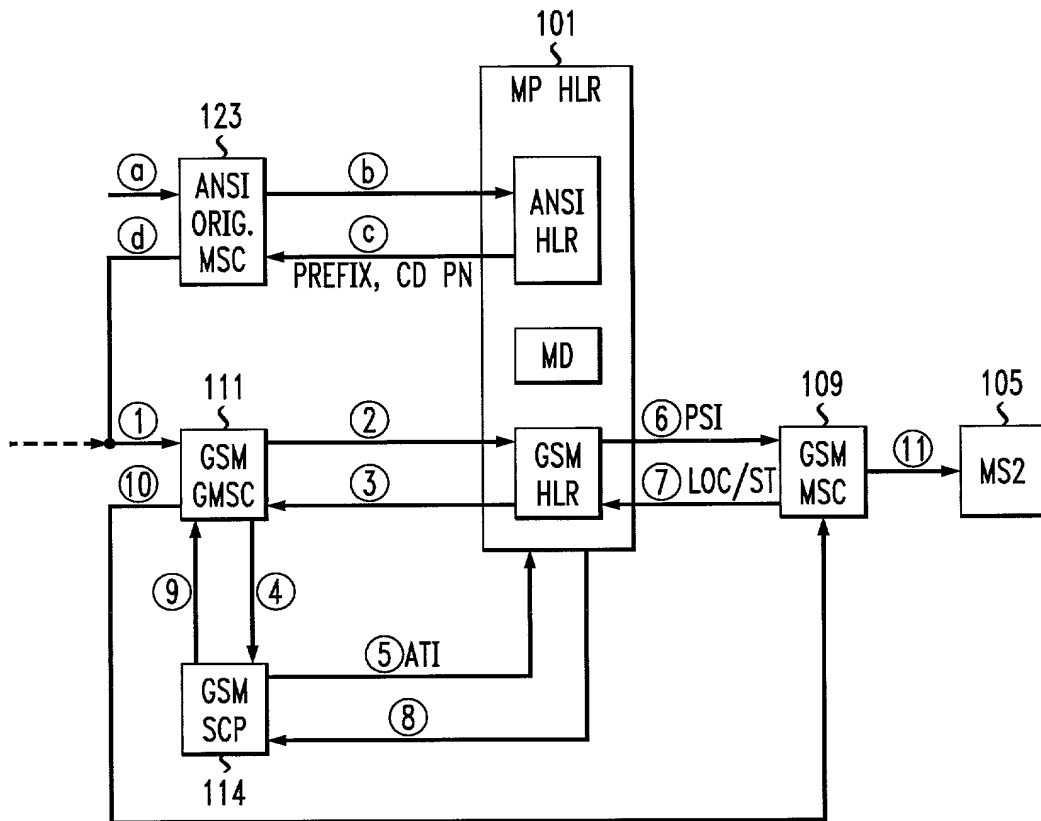


FIG. 13



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FIG. 14

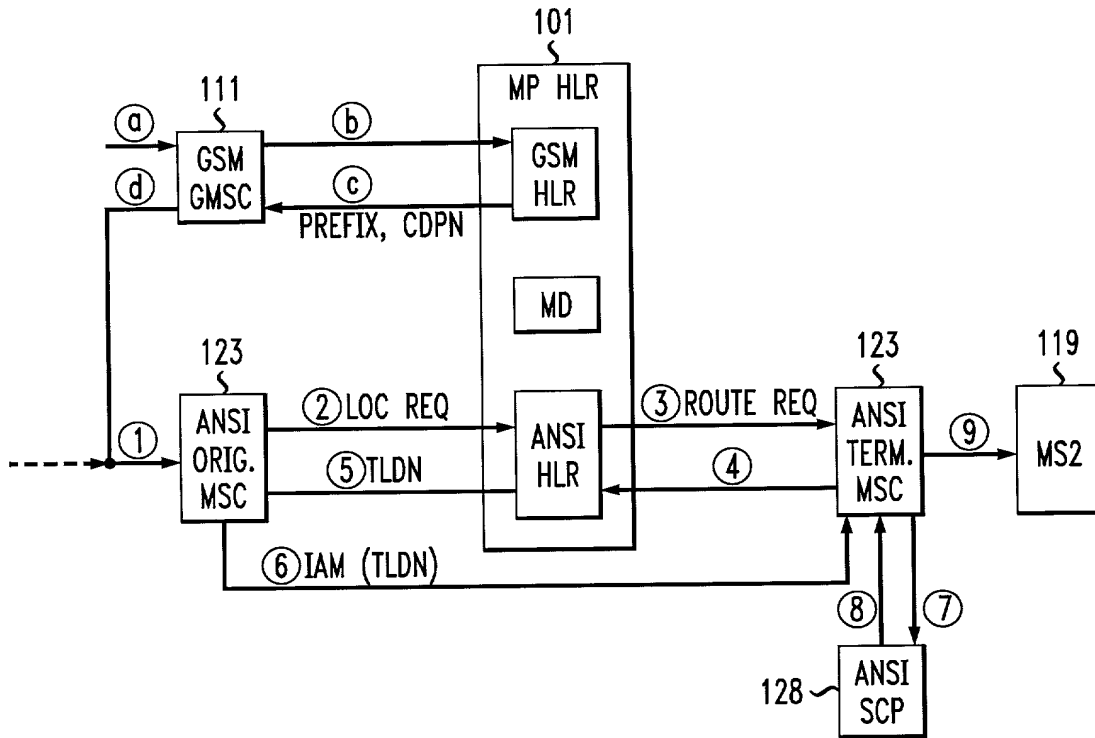
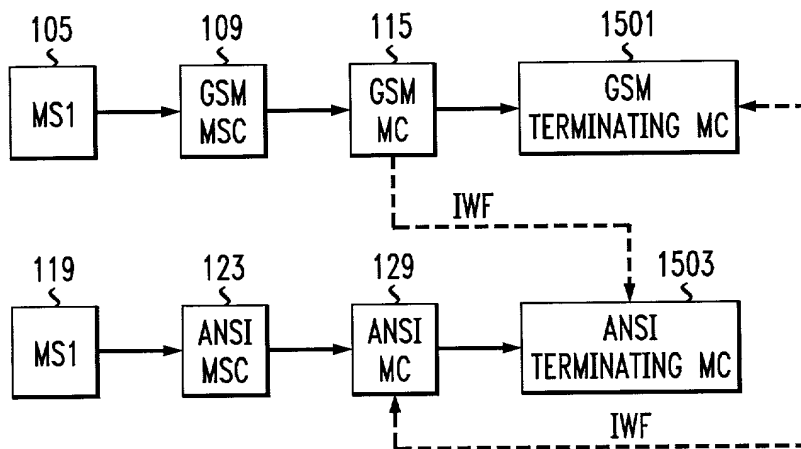


FIG. 15



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FIG. 16

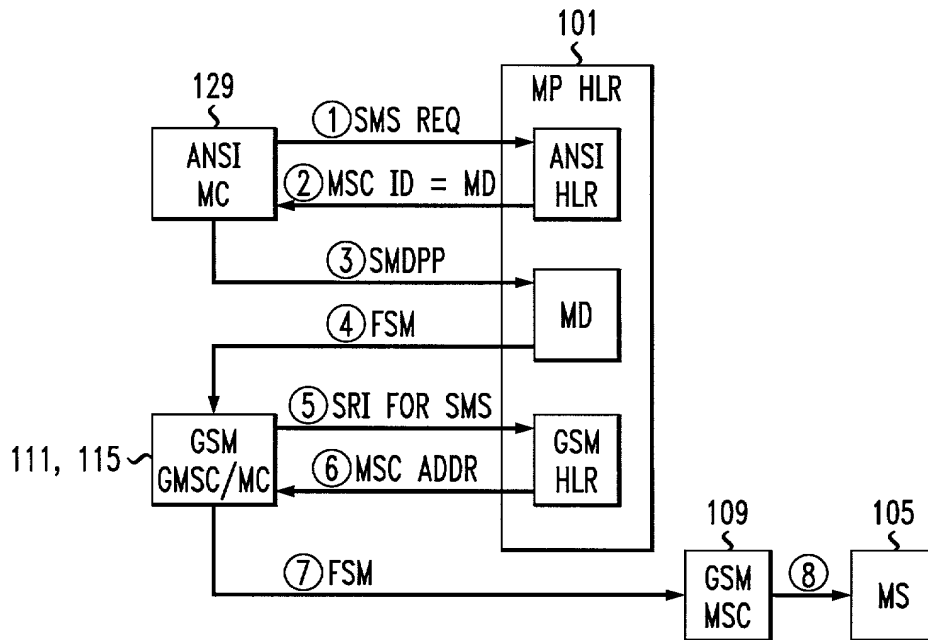
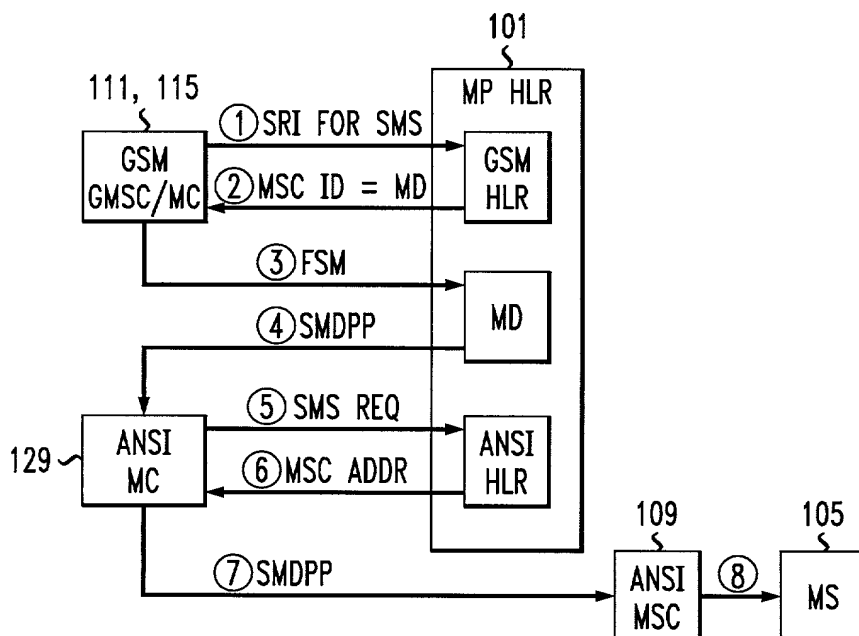


FIG. 17



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FIG. 18

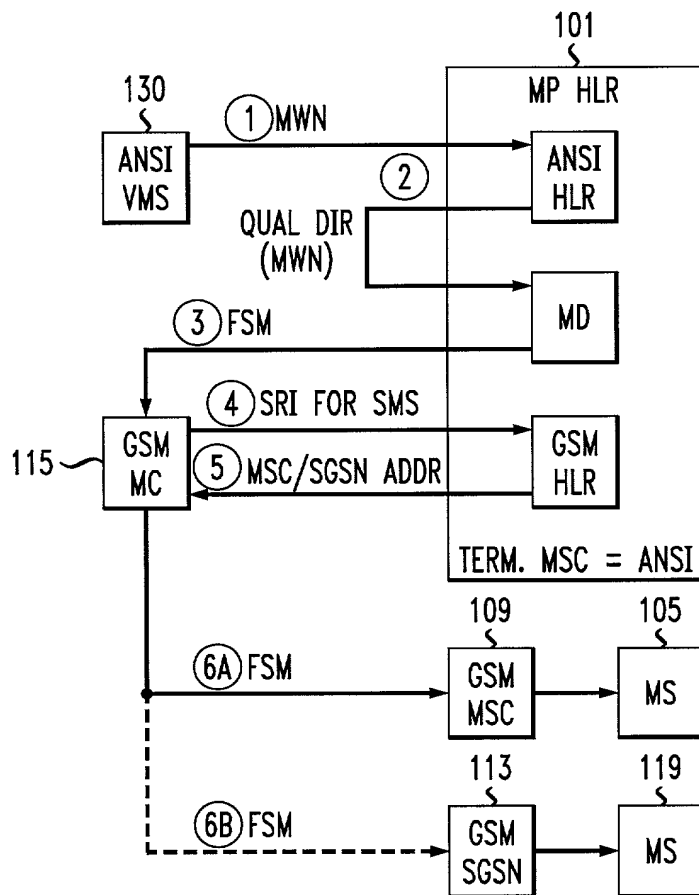


FIG. 19

